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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
19302A GSRS. MISSILE NUMBERS V-7/V-8, ROUND NUMBERS V-7/V-8.(U)  
MAY 78

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METEOROLOGICAL DATA REPORT

19302A GSRS  
MISSILE NOS. V-7/V-8, ROUND NOS. V-7/V-8  
(14 APRIL 1978)

BY

WSMR METEOROLOGICAL TEAM

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19302A GSRS, Missile Numbers V-7/V-8, Round Numbers V-7/V-8, are presented in tabular form.		

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*[Signature]*

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## INTRODUCTION

19302A GSRS, Missile Numbers V-7/V-8, Round Numbers V-7/V-8, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0821/0845 HRS MST, 14 April 1978. The scheduled launch times were 0815/0835 HRS MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction, wind velocity and cloud cover were made at the LC-33 Met Site at T-0 mins.

(2) Anemometer data were provided from existing pole mounted and tower mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

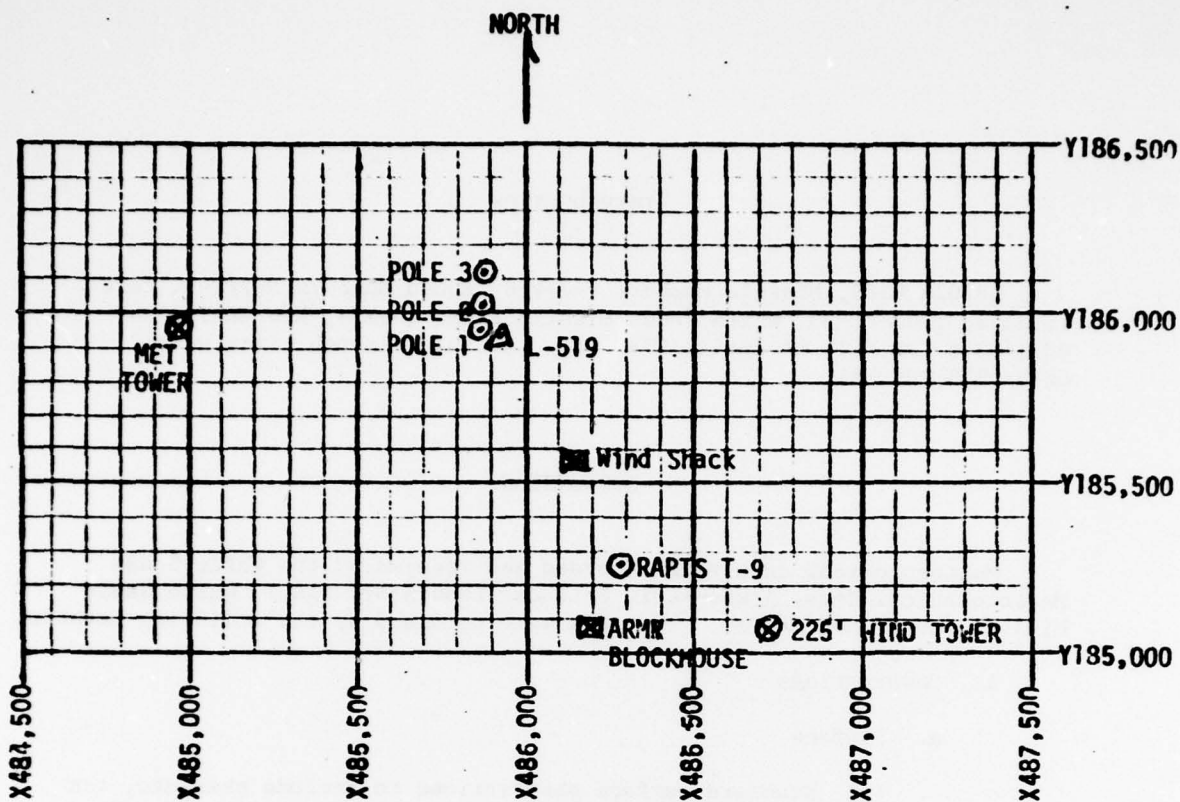
#### b. Upper Air

(1) Low level wind data were obtained from RAPTS-T-9 pibal observations at T-0 mins as follows:

#### SITE & ALT.

LC-33 900 meters (15 meter incs)  
APA 900 meters (30 meter incs)  
SMR 900 meters (30 meter incs)

(2) Air structure data (rawinsonde) were collected at the SMR Met Site at T-0 mins. Data were collected from surface to 125% of apogee in 100 meter incs.



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders in Wind Shack.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders in Wind Shack
  - (a) Pole #1 - 38.7 ft
  - (b) Pole #2 - 53.0 ft
  - (c) Pole #3 - 83.6 ft
3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
4. RPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

The data are presented in the following tabulations:

ELEVATION	3,986.67	FEET/MSL
PRESSURE	879.9	MBS
TEMPERATURE	20.8	°C
RELATIVE HUMIDITY	22	%
DEW POINT	-1.5	°C
DENSITY	1,038.8	GM/M <sup>3</sup>
WIND SPEED	03	MPH
WIND DIRECTION	125	DEGREES
CLOUD COVER	.3	Cu

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33,  
AT 0821 HRS MST/14 APRIL 1978  
19302A GSRS, MISSILE NO. V-7, ROUND NO. V-7

The data are presented in the following tabulations:

ELEVATION	3,986.67	FEET/MSL
PRESSURE	879.2	MBS
TEMPERATURE	22.0	°C
RELATIVE HUMIDITY	22	%
DEW POINT	-0.7	°C
DENSITY	1,033.8	GM/M <sup>3</sup>
WIND SPEED	06	MPH
WIND DIRECTION	340	DEGREES
CLOUD COVER	.3	Cu

TABLE II. SURFACE OBSERVATIONS TAKEN AT LC-33,  
AT 0845 HRS MST/14 APRIL 1978  
19302A GSRS, MISSILE NO. V-8, ROUND NO. V-8

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	125	3.0
100	121	2.5
200	117	2.0
300	124	2.5
400	130	2.5
500	114	3.5
600	097	4.0
700	081	4.5
800	065	5.0
900	067	3.5
1000	068	1.5
1100	139	3.0
1200	210	4.0
1300	245	5.0
1400	279	5.5
1500	282	6.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
1600	285	6.0
1700	281	6.0
1800	277	6.0
1900	299	5.5
2000	320	4.5
2100	295	7.5
2200	270	10.0
2300	264	10.5
2400	257	11.0
2500	264	12.5
2600	271	13.5
2700	269	14.0
2800	267	14.0
2900	266	14.5
3000	264	14.5

TABLE III. RPTS-T-9 PILOT-BALLOON-MEASURED WIND DATA,  
RELEASED FROM LC-33 AT 0821 HRS MST/14 APRIL 1978  
19302A GSRS, MISSILE NO. V-7, ROUND NO. V-7

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.30

APPROXIMATELY: 1/2 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	275	15.0	2100	256	14.5
100	238	17.5	2200	256	16.0
200	201	19.5	2300	260	17.0
300	240	16.5	2400	263	18.0
400	279	13.0	2500	268	18.0
500	268	12.5	2600	272	17.5
600	256	11.5	2700	278	18.0
700	257	11.0	2800	284	18.5
800	258	10.5	2900	282	19.0
900	251	11.5	3000	279	19.5
1000	243	12.5	3100	278	19.0
1100	255	12.0	3200	276	18.0
1200	267	11.5	3300	278	19.0
1300	263	13.0	3400	280	19.5
1400	259	14.0	3500	275	20.0
1500	263	15.0	3600	270	20.5
1600	267	16.0	3700	272	21.0
1700	263	15.5	3800	273	21.0
1800	259	14.5	3900	272	21.5
1900	257	14.0	4000	271	22.0
2000	255	13.0	4100	272	23.0

TABLE IV. RAPTS-T-9 PILOT-BALLOON-MEASURED WIND DATA,  
RELEASED FROM SMR AT 0825 HRS MST/14 APRIL 1978  
19302A GSRs, MISSILE NO. V-7, ROUND NO. V-7

PIBAL RELEASE POINT WSTM COORDINATES:

X = 472,441.28    Y = 214,137.54    Z = 3,999.00

APPROXIMATELY: 7 MILES NNW OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	272	24.0
4300	269	24.5
4400	266	24.5
4500	268	25.0
4600	270	25.0
4700	268	24.5
4800	266	24.5
4900	266	21.5
5000	265	19.0
5100	265	18.0
5200	264	16.5
5300	268	17.5
5400	271	18.0
5500	270	17.5
5600	268	17.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
5700	266	17.5
5800	264	17.5
5900	266	17.5
6000	267	17.0
6100	264	16.5
6200	261	15.5
6300	261	16.0
6400	260	16.0
6500	264	17.0
6600	268	17.5
6700	264	17.0
6800	259	16.0
6900	261	15.5
7000	263	14.5

TABLE IV. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	250	15.0	2100	275	16.0
100	254	16.0	2200	277	14.5
200	258	17.0	2300	275	14.5
300	266	17.5	2400	272	14.0
400	273	18.0	2500	267	14.5
500	262	18.5	2600	262	15.0
600	250	19.0	2700	266	14.5
700	249	19.0	2800	269	13.5
800	248	18.5	2900	270	14.5
900	256	16.5	3000	271	15.0
1000	263	14.5	3100	268	15.5
1100	267	15.5	3200	265	16.0
1200	270	16.5	3300	266	16.5
1300	273	17.5	3400	266	17.0
1400	275	18.5	3500	268	17.5
1500	275	18.5	3600	270	17.5
1600	274	18.5	3700	270	18.5
1700	273	18.5	3800	269	19.5
1800	271	18.5	3900	270	20.0
1900	272	18.0	4000	270	20.0
2000	272	17.5	4100	269	20.5

TABLE V. RPTS-T-9 PILOT-BALLOON-MEASURED WIND DATA,  
RELEASED FROM SMR AT 0845 HRS MST/14 APRIL 1978  
19302A GSRS, MISSILE NO. V-8, ROUND NO. V-8

PIBAL RELEASE POINT WSTM COORDINATES:

X = 472,441.28    Y = 214,137.54    Z = 3,999.00

APPROXIMATELY: 7 MILES NNW OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	268	21.0
4300	268	22.0
4400	267	23.0
4500	266	23.5
4600	265	24.0
4700	261	25.5
4800	257	27.0
4900	259	27.0
5000	260	27.0
5100	262	26.5
5200	263	25.5
5300	263	25.5
5400	263	25.0
5500	264	23.5
5600	265	21.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
5700	264	21.0
5800	263	20.5
5900	260	21.0
6000	257	21.5
6100	259	19.5
6200	260	17.5
6300	260	18.0
6400	260	18.0
6500	256	18.5
6600	251	19.0
6700	253	16.5
6800	255	14.0
6900	253	16.5
7000	251	19.0

TABLE V. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	340	6.0	1600	297	6.0
100	337	7.5	1700	296	7.0
200	334	9.0	1800	294	8.0
300	334	11.0	1900	283	8.5
400	333	13.0	2000	272	8.5
500	342	9.0	2100	271	9.0
600	351	5.0	2200	270	9.0
700	330	3.5	2300	277	12.0
800	308	1.5	2400	283	14.5
900	321	2.5	2500	283	13.5
1000	334	3.0	2600	283	12.0
1100	308	4.5	2700	281	13.5
1200	281	6.0	2800	279	15.0
1300	251	5.5	2900	282	16.5
1400	220	4.5	3000	284	17.5
1500	259	5.5			

TABLE VI. RAPTS-T-9 PILOT-BALLOON-MEASURED WIND DATA,  
RELEASED FROM LC-33 AT 0846 HRS MST/14 APRIL 1978  
19302A GSRS, MISSILE NO. V-8, ROUND NO. V08

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.30

APPROXIMATELY: 1/2 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	200	3.0	1600	236	10.2
100	206	3.4	1700	237	10.7
200	211	3.7	1800	238	11.2
300	215	4.1	1900	239	11.7
400	218	4.6	2000	239	12.2
500	221	5.0	2100	240	12.7
600	223	5.4	2200	240	13.2
700	225	5.9	2300	240	13.6
800	227	6.3	2400	239	14.0
900	228	6.8	2500	239	14.4
1000	229	7.2	2600	238	14.8
1100	230	7.7	2700	238	15.2
1200	232	8.2	2800	237	15.6
1300	233	8.7	2900	237	16.0
1400	234	9.2	3000	236	16.4
1500	235	9.7			

TABLE VII. RAPTS-T-9 PILOT-BALLOON-MEASURED WIND DATA,  
RELEASED FROM APACHE AT 0908 HRS MST/14 APRIL 1978  
19302A GSRS, MISSILE NOS. V-7/V-8, ROUND NOS. V-7/V-8

PIBAL RELEASE POINT WSTM COORDINATES:

X = 481,338.6 Y = 267,644.4 Z = 3,962.07

APPROXIMATELY: 16 MILES NORTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3989.00 FEET MSL  
 14 APR. 78  
 ASCENSION NO. 236

SIGNIFICANT LEVEL DATA  
 10400202J3  
 WHITE SANDS  
 TABLE VIII.

GEODETIC COORDINATES  
 32.40043 LAT DEW  
 106.37033 LUN DEW

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PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
879.0	3989.0	16.5	23.0
864.8	4445.9	19.4	20.0
850.0	4931.3	17.9	41.0
700.0	10266.7	6.1	25.0
667.6	11534.8	3.0	20.0
604.8	14130.5	-4.0	46.0
561.4	16044.4	-9.1	62.0
545.4	16778.0	-10.9	58.0
535.8	17226.4	-11.5	34.0
519.6	18001.1	-11.0	19.0
500.0	18968.6	-13.0	19.0
443.6	21938.9	-18.2	18.0
400.0	24444.7	-25.5	18.0
354.8	27259.2	-33.8	20.0
300.0	31043.7	-44.6	
271.0	33259.6	-49.7	
250.0	34994.2	-50.7	
234.0	36408.9	-52.2	
204.6	39240.4	-57.0	
200.0	39714.8	-57.0	
187.0	41122.1	-55.4	
181.8	41713.9	-56.1	
173.6	42681.7	-55.8	
165.8	43642.8	-57.4	
160.8	44281.3	-57.0	
157.0	44783.3	-54.5	
153.4	45273.5	-54.1	
150.0	45746.4	-55.2	
128.6	48939.9	-61.5	
124.4	49618.1	-61.9	

STATION ALTITUDE 3989.00 FEET MSL  
 14 APR. 78 0730 HRS MST  
 ASCENSION NO. 236

SIGNIFICANT LEVEL DATA  
 1040020236  
 WHITE SANDS  
 TABLE VIII. (CONT)

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

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PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
116.2	50663.7	-61.0		
111.8	51797.8	-63.6		
100.0	54040.4	-66.6		
86.6	56874.5	-72.1		
70.0	61089.6	-64.5		
56.6	65356.6	-66.6		
50.0	67847.2	-64.5		
48.2	68592.6	-61.7		
30.0	78468.1	-54.4		
20.0	87162.3	-49.9		
14.8	93744.6	-44.9		
12.0	98453.7	-38.6		
10.0	102620.1	-36.9		
9.0	105041.3	-36.1		

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GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

UPPER AIR DATA  
1040020236  
WHITE SANDS  
TABLE IX.

STATION ALTITUDE 3989.00 FEET MSL  
14 APR. 78 0730 HRS MST  
ASCENSION NO. 236

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.0	16.5	23.0	1055.2	663.6	120.0	3.9	1.000255
4000.0	878.7	16.6	22.9	1054.6	663.7	120.6	3.8	1.000254
4500.0	863.1	19.2	20.1	1026.4	666.8	192.0	2.1	1.000249
5000.0	847.9	17.7	21.1	1013.4	665.1	242.0	4.7	1.000245
5500.0	832.6	16.6	21.4	999.0	663.8	254.1	8.3	1.000241
6000.0	817.6	15.5	21.8	984.8	662.5	258.5	11.9	1.000237
6500.0	802.8	14.4	22.2	970.9	661.2	262.6	14.5	1.000233
7000.0	788.4	13.3	22.6	957.1	659.9	265.8	16.9	1.000229
7500.0	774.1	12.2	22.9	943.5	658.6	262.6	17.8	1.000225
8000.0	760.2	11.1	23.3	930.2	657.3	258.3	18.5	1.000222
8500.0	746.5	10.0	23.7	917.0	656.0	249.6	18.7	1.000218
9000.0	733.0	8.9	24.1	904.1	654.7	241.2	18.9	1.000214
9500.0	719.8	7.8	24.4	891.3	653.4	232.5	18.8	1.000211
10000.0	706.8	6.7	24.8	878.8	652.1	227.1	18.7	1.000208
10500.0	693.9	5.5	24.1	866.4	650.7	224.4	18.2	1.000204
11000.0	681.1	4.3	22.1	854.3	649.3	227.6	17.6	1.000199
11500.0	668.5	3.1	20.1	842.3	647.8	233.8	17.1	1.000195
12000.0	655.9	1.7	20.7	830.4	646.2	241.1	19.0	1.000194
12500.0	643.5	.4	29.7	818.6	644.7	248.6	21.5	1.000192
13000.0	631.4	-1.0	34.7	807.1	643.1	248.6	24.8	1.000190
13500.0	619.5	-2.3	39.7	795.8	641.5	249.7	27.2	1.000188
14000.0	607.8	-3.6	44.7	784.7	640.0	249.8	27.8	1.000186
14500.0	596.2	-5.0	49.1	773.4	638.4	249.0	28.4	1.000183
15000.0	584.7	-6.3	53.3	762.3	636.8	247.6	29.1	1.000181
15500.0	573.4	-7.6	57.4	751.4	635.2	245.0	30.2	1.000178
16000.0	562.4	-9.0	61.6	740.7	633.6	242.6	31.3	1.000175
16500.0	551.4	-10.2	65.9	729.7	632.1	242.3	31.8	1.000172
17000.0	540.6	-11.2	46.1	718.4	630.6	242.7	31.8	1.000167
17500.0	530.0	-11.3	28.7	704.8	630.5	244.0	31.1	1.000161
18000.0	519.6	-11.0	19.0	690.3	630.9	244.3	30.5	1.000157

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UPPER AIR DATA  
1040020236  
WHITE SANDS  
TABLE IX. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
14 APR. 78  
ASCENSION NO. 236

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	509.4	-12.0	19.0	679.4	629.6	244.4	30.0	1.000154
19000.0	499.4	-13.1	19.0	668.6	628.4	243.8	31.2	1.000151
19500.0	489.4	-13.9	18.8	657.5	627.3	242.9	32.4	1.000149
20000.0	479.6	-14.8	18.7	646.6	626.3	239.7	34.1	1.000146
20500.0	470.1	-15.7	18.5	635.9	625.2	237.1	35.7	1.000144
21000.0	460.7	-16.6	18.3	625.3	624.1	237.0	37.2	1.000141
21500.0	451.5	-17.4	18.1	615.0	623.1	237.0	38.7	1.000139
22000.0	442.5	-18.4	18.0	604.9	621.9	236.5	39.6	1.000136
22500.0	433.4	-19.8	18.0	596.0	620.1	239.9	40.5	1.000134
23000.0	424.6	-21.3	18.0	587.2	618.3	239.3	40.8	1.000132
23500.0	415.9	-22.7	18.0	578.5	616.5	238.4	41.0	1.000130
24000.0	407.4	-24.2	18.0	570.0	614.7	238.7	41.5	1.000128
24500.0	399.1	-25.7	18.0	561.6	612.9	239.5	42.0	1.000126
25000.0	390.6	-27.1	18.4	553.1	611.1	240.8	42.2	1.000124
25500.0	382.4	-28.6	18.7	544.7	609.2	242.4	42.2	1.000122
26000.0	374.4	-30.1	19.1	536.5	607.4	242.5	40.9	1.000120
26500.0	366.5	-31.6	19.5	528.4	605.6	242.0	39.2	1.000118
27000.0	358.7	-33.0	19.8	520.4	603.7	241.9	38.7	1.000116
27500.0	351.0	-34.5	18.7	512.4	601.9	241.9	38.4	1.000115
28000.0	343.3	-35.9	16.1	504.1	600.1	241.8	39.2	1.000113
28500.0	335.8	-37.3	13.4	496.1	598.3	241.8	40.2	1.000111
29000.0	328.4	-38.8	10.8	488.2	596.4	241.7	39.6	1.000109
29500.0	321.2	-40.2	8.2	480.4	594.6	241.7	38.8	1.000107
30000.0	314.2	-41.6	5.5	472.8	592.8	242.6	38.6	1.000105
30500.0	307.3	-43.0	2.9	465.3	591.0	243.6	38.3	1.000104
31000.0	300.6	-44.5	.2	457.9	589.1	247.2	39.0	1.000102
31500.0	293.8	-45.7		449.9	587.6	251.1	40.0	1.000100
32000.0	287.1	-46.8		441.9	586.1	255.3	42.0	1.000098
32500.0	280.6	-48.0		434.1	584.6	259.3	44.5	1.000097
33000.0	274.2	-49.1		426.4	583.1	261.8	47.7	1.000095

°° AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 14 APR. 78 U730 HRS MST  
 ASCENSION NO. 236

UPPER AIR DATA  
 1040020236  
 "HITE SANDS  
 TABLE IX. (CONT)

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC MEIER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
33600.0	269.0	-49.4		416.1	582.2	263.6	51.1	1.000093
34000.0	261.8	-50.1		409.0	581.6	265.8	57.3	1.000091
34500.0	255.8	-50.4		400.1	581.4	267.7	64.0	1.000089
35000.0	249.7	-50.7		391.4	581.0	269.2	67.4	1.000087
35500.0	244.2	-51.2		383.3	580.3	270.5	70.7	1.000085
36000.0	238.5	-51.8		375.3	579.7	271.2	71.0	1.000084
36500.0	233.0	-52.4		367.6	578.9	271.9	71.1	1.000082
37000.0	227.5	-53.2		360.4	577.8	272.0	73.5	1.000080
37500.0	222.2	-54.0		353.3	576.7	272.1	76.1	1.000079
38000.0	217.0	-54.9		346.4	575.5	272.9	76.7	1.000077
38500.0	211.9	-55.7		339.6	574.4	273.9	76.9	1.000076
39000.0	206.9	-56.6		332.9	573.3	274.1	76.5	1.000074
39500.0	202.1	-57.0		325.7	572.8	274.0	75.8	1.000073
40000.0	197.3	-56.7		317.5	573.2	273.2	74.7	1.000071
40500.0	192.6	-56.1		309.2	573.9	271.9	73.4	1.000069
41000.0	188.1	-55.5		301.1	574.7	271.0	71.8	1.000067
41500.0	183.7	-55.8		294.4	574.3	270.4	70.0	1.000066
42000.0	179.3	-56.0		287.7	574.1	269.7	68.7	1.000064
42500.0	175.1	-55.9		280.7	574.3	269.1	68.2	1.000063
43000.0	171.0	-56.3		274.7	573.6	268.3	67.6	1.000061
43500.0	166.9	-57.2		269.2	572.5	267.0	66.5	1.000060
44000.0	163.0	-57.2		262.9	572.5	265.6	65.4	1.000059
44500.0	159.1	-55.9		255.2	574.2	263.2	64.1	1.000057
45000.0	155.4	-54.3		247.4	576.3	260.9	62.9	1.000055
45500.0	151.8	-54.6		241.9	575.9	258.9	62.6	1.000054
46000.0	148.2	-55.7		237.4	574.5	257.0	62.3	1.000053
46500.0	144.6	-56.7		232.8	573.2	256.5	61.4	1.000052
47000.0	141.2	-57.7		228.3	571.9	256.1	60.6	1.000051
47500.0	137.8	-58.7		223.9	570.6	255.9	58.6	1.000050
48000.0	134.6	-59.6		219.6	569.2	255.8	56.5	1.000049

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STATION ALTITUDE 3969.00 FEET MSL  
 14 APR. 78 0730 HRS MST  
 ASCENSION NO. 236

UPPER AIR DATA  
 1040020236  
 WHITE SANDS  
 TABLE IX. (CONT)

GEODETIC COORDINATES  
 32°40'43" LAT DEG  
 106°37'03" LON DEG

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GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED UP SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
							SPEED KNOTS	SPEED KNOTS	
4800.0	131.4	-60.6		215.3	567.9	255.4	54.3	1.000048	
4900.0	128.2	-61.5		211.1	566.7	254.7	52.2	1.000047	
4950.0	125.1	-61.8		206.3	566.3	253.8	50.2	1.000046	
5000.0	122.1	-61.6		201.0	566.7	252.5	48.2	1.000045	
5050.0	119.2	-61.1		195.8	567.2	251.2	46.4	1.000044	
5100.0	116.3	-61.8		191.6	566.4	249.8	44.8	1.000043	
5150.0	113.4	-62.9		188.0	564.9	248.9	43.6	1.000042	
5200.0	110.7	-63.9		184.2	563.6	249.2	43.3	1.000041	
5250.0	108.0	-64.5		180.3	562.7	249.5	43.0	1.000040	
5300.0	105.3	-65.2		176.4	561.8	251.6	42.2	1.000039	
5350.0	102.7	-65.9		172.6	560.9	253.8	41.4	1.000038	
5400.0	100.2	-66.5		169.0	560.0	256.1	40.1	1.000037	
5450.0	97.7	-67.5		165.5	558.7	255.9	37.8	1.000036	
5500.0	95.2	-68.5		162.1	557.4	262.0	35.6	1.000035	
5550.0	92.9	-69.4		158.8	556.0	262.6	34.5	1.000034	
5600.0	90.5	-70.4		155.6	554.7	262.6	33.6	1.000033	
5650.0	88.3	-71.4		152.4	553.4	260.9	33.6	1.000032	
5700.0	86.1	-71.9		148.9	552.7	257.7	35.2	1.000031	
5750.0	83.9	-71.0		144.6	553.9	254.8	36.4	1.000030	
5800.0	81.8	-70.1		140.3	555.2	253.2	34.4	1.000029	
5850.0	79.8	-69.2		136.2	556.4	251.4	32.4	1.000028	
5900.0	77.8	-68.3		132.3	557.6	249.6	27.7	1.000027	
5950.0	75.8	-67.4		128.4	558.9	247.8	22.4	1.000026	
6000.0	74.0	-66.5		124.7	560.1	243.9	19.6	1.000025	
6050.0	72.1	-65.6		121.0	561.3	240.4	18.2	1.000024	
6100.0	70.3	-64.7		117.5	562.5	240.3	17.8	1.000023	
6150.0	68.6	-64.7		114.6	562.5	242.7	18.1	1.000022	
6200.0	66.9	-64.9		111.9	562.1	245.6	18.3	1.000021	
6250.0	65.3	-65.2		109.3	561.8	249.1	18.2	1.000020	
6300.0	63.6	-65.4		106.7	561.5	251.8	18.0	1.000019	

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UPPER AIR DATA  
1040020236  
WHITE SANDS  
TABLE IX. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
14 APR. 78  
ASCENSION NO. 236

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.1	-65.7		104.2	561.1	252.2	17.0	1.000023
64000.0	60.6	-65.9		101.8	560.8	252.7	16.0	1.000023
64500.0	59.1	-66.2		99.4	560.5	251.6	14.0	1.000022
65000.0	57.6	-66.4		97.1	560.1	249.9	11.9	1.000022
65500.0	56.2	-66.5		94.7	560.1	247.3	10.0	1.000021
66000.0	54.8	-66.1		92.2	560.6	243.6	8.4	1.000021
66500.0	53.5	-65.6		89.8	561.2	238.6	6.9	1.000020
67000.0	52.2	-65.2		87.4	561.8	233.8	6.0	1.000019
67500.0	50.9	-64.8		85.1	562.3	227.5	5.2	1.000019
68000.0	49.6	-63.9		82.6	563.5	222.4	4.7	1.000018
68500.0	48.4	-62.0		79.9	566.0	216.6	4.2	1.000018
69000.0	47.3	-61.4		77.8	566.9	210.9	3.8	1.000017
69500.0	46.1	-61.0		75.8	567.4	205.7	3.4	1.000017
70000.0	45.1	-60.7		73.9	567.9	199.2	3.1	1.000016
70500.0	44.0	-60.3		72.0	568.4	180.6	2.3	1.000016
71000.0	42.9	-59.9		70.2	568.9	145.9	2.0	1.000016
71500.0	41.9	-59.6		68.4	569.4	113.2	2.6	1.000015
72000.0	40.9	-59.2		66.6	569.9	99.6	4.3	1.000015
72500.0	40.0	-58.8		64.9	570.4	93.9	6.1	1.000014
73000.0	39.0	-58.4		63.3	570.8	93.2	7.9	1.000014
73500.0	38.1	-58.1		61.7	571.3	93.9	9.5	1.000014
74000.0	37.2	-57.7		60.1	571.8	94.4	11.1	1.000013
74500.0	36.3	-57.3		58.6	572.3	95.3	11.0	1.000013
75000.0	35.4	-57.0		57.1	572.8	96.2	10.9	1.000013
75500.0	34.6	-56.6		55.7	573.3	99.7	9.9	1.000012
76000.0	33.8	-56.2		54.2	573.8	113.1	7.1	1.000012
76500.0	33.0	-55.9		52.9	574.3	139.8	5.1	1.000012
77000.0	32.2	-55.5		51.5	574.8	165.4	4.7	1.000011
77500.0	31.4	-55.1		50.2	575.3	181.2	5.1	1.000011
78000.0	30.7	-54.7		48.9	575.7	194.3	5.7	1.000011

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UPPER AIR DATA  
1040020236  
"HITE SANDS"  
TABLE IX. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
14 APR. 78 0730 HRS MST  
ASCENSION NO. 236

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
78500.0	30.0	-54.4		47.7	576.2	186.1	5.4	1.000011
79000.0	29.3	-54.1		46.5	576.6	173.0	5.1	1.000010
79500.0	28.6	-53.9		45.4	576.7	160.2	5.1	1.000010
80000.0	27.9	-53.6		44.3	577.2	161.0	5.1	1.000010
80500.0	27.3	-53.3		43.2	577.6	161.9	5.1	1.000010
81000.0	26.7	-53.1		42.2	577.9	162.9	5.2	1.000009
81500.0	26.0	-52.8		41.2	578.3	164.3	5.7	1.000009
82000.0	25.4	-52.6		40.2	578.6	165.6	6.1	1.000009
82500.0	24.9	-52.3		39.2	578.9	166.7	6.0	1.000009
83000.0	24.3	-52.1		38.3	579.3	175.6	5.3	1.000009
83500.0	23.7	-51.8		37.3	579.6	184.6	4.6	1.000008
84000.0	23.2	-51.5		36.4	580.0	199.1	3.9	1.000008
84500.0	22.6	-51.3		35.5	580.3	220.8	3.5	1.000008
85000.0	22.1	-51.0		34.7	580.6	244.3	3.6	1.000008
85500.0	21.6	-50.8		33.8	581.0	250.3	5.0	1.000008
86000.0	21.1	-50.5		33.0	581.3	246.2	7.0	1.000007
86500.0	20.6	-50.2		32.2	581.7	243.9	9.0	1.000007
87000.0	20.1	-50.0		31.4	582.0	243.6	11.1	1.000007
87500.0	19.7	-49.6		30.7	582.4	245.3	13.3	1.000007
88000.0	19.2	-49.3		29.9	582.9	246.6	15.4	1.000007
88500.0	18.8	-48.9		29.2	583.4	247.6	17.2	1.000006
89000.0	18.4	-48.5		28.5	583.9	249.4	16.3	1.000006
89500.0	18.0	-48.1		27.8	584.4	251.5	15.3	1.000006
90000.0	17.6	-47.7		27.1	584.9	253.8	14.4	1.000006
90500.0	17.2	-47.4		26.5	585.4	256.4	14.2	1.000006
91000.0	16.8	-47.0		25.8	585.9	259.0	14.1	1.000006
91500.0	16.4	-46.6		25.2	586.4	261.7	14.0	1.000006
92000.0	16.0	-46.2		24.6	586.9	265.3	14.6	1.000005
92500.0	15.7	-45.8		24.0	587.4	268.9	15.6	1.000005
93000.0	15.3	-45.5		23.4	587.6	272.1	16.7	1.000005

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UPPER AIR DATA  
 1040020236  
 WHITE SANDS  
 TABLE IX. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 14 APR. 78  
 ASCENSION NO. 236

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	WET BULB TEMPERATURE DEGREES CENTIGRADE	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
93500.0	15.0	-45.1		22.9	586.3	274.1	17.3	1.000006
94000.0	14.6	-44.6		22.3	589.0	274.7	17.2	1.000006
94500.0	14.3	-43.9		21.7	589.9	275.4	17.1	1.000006
95000.0	14.0	-43.2		21.2	590.7	275.6	17.2	1.000006
95500.0	13.7	-42.6		20.7	591.6	272.4	18.5	1.000006
96000.0	13.4	-41.9		20.2	592.5	269.7	19.9	1.000004
96500.0	13.1	-41.2		19.7	593.3	267.3	21.4	1.000004
97000.0	12.8	-40.5		19.2	594.2	266.3	24.8	1.000004
97500.0	12.5	-39.9		18.7	595.0	265.8	28.8	1.000004
98000.0	12.2	-39.2		18.2	595.9	265.4	32.8	1.000004
98500.0	12.0	-38.6		17.8	596.7	266.3	34.8	1.000004
99000.0	11.7	-38.4		17.4	596.9	268.6	34.5	1.000004
99500.0	11.5	-38.2		17.0	597.2	271.0	34.3	1.000004
100000.0	11.2	-38.0		16.6	597.4	273.4	34.0	1.000004
100500.0	11.0	-37.8		16.2	597.7	275.9	32.3	1.000004
101000.0	10.7	-37.6		15.9	598.0	278.6	30.5	1.000004
101500.0	10.5	-37.4		15.5	598.2	281.6	28.9	1.000003
102000.0	10.3	-37.2		15.2	598.5	283.2	30.0	1.000003
102500.0	10.1	-36.9		14.8	598.7	283.9	32.3	1.000003
103000.0	9.8	-36.8		14.5	599.0	284.5	34.5	1.000003
103500.0	9.6	-36.6		14.2	599.2			1.000003
104000.0	9.4	-36.4		13.9	599.4			1.000003
104500.0	9.2	-36.3		13.6	599.6			1.000003
105000.0	9.0	-36.1		13.3	599.8			1.000003

STATION ALTITUDE 3989.00 FEET MSL  
 14 APR. 78  
 ASCENSION NO. 236

MANDATORY LEVELS  
 1040020236  
 WHITE SANDS  
 TABLE X.

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

THIS PAGE IS BEST QUALITY PRACTICABLE  
 FROM COPY FURNISHED TO DDC

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION KNOTS	SPEED KNOTS
850.0	4928.	17.9	-4.7	21.	239.7	4.2
800.0	6416.	14.2	-7.0	24.	203.4	15.0
750.0	8389.	10.3	-9.6	24.	251.5	18.7
700.0	10257.	6.1	-12.4	25.	225.7	18.5
650.0	12230.	1.1	-15.8	27.	244.0	20.1
600.0	14320.	-4.5	-13.9	48.	249.5	28.2
550.0	16544.	-10.4	-16.8	59.	242.3	31.9
500.0	18942.	-13.0	-31.7	19.	243.9	31.1
450.0	21554.	-17.6	-36.0	18.	237.2	38.8
400.0	24404.	-25.5	-42.7	18.	239.4	41.9
350.0	27523.	-34.7	-50.3	18.00	241.9	38.4
300.0	30982.	-44.6			247.4	39.0
250.0	34918.	-50.7			269.1	67.3
200.0	39620.	-57.0			273.9	75.5
175.0	42406.	-55.9			269.1	68.2
150.0	45624.	-55.2			258.1	62.5
125.0	49378.	-61.8			253.8	50.2
100.0	53874.	-66.6			256.2	40.0
80.0	58234.	-69.3			251.8	32.8
70.0	60881.	-64.5			240.5	17.8
60.0	63960.	-66.0			252.5	15.4
50.0	67594.	-64.5			224.2	4.9
40.0	72149.	-58.8			94.8	5.7
30.0	78135.	54.4			307.9	5.4
25.0	81985.	52.4			166.5	6.3
20.0	86746.	49.9			244.1	11.6
15.0	92984.	45.1			274.0	17.3
10.0	102066.	36.9			284.0	32.6

.. AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.